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ABSTRACT

"Technology and Changing Lifestyles" is one of the "Preparing for Tomorrow's World" (PTW) program modules. PTW is an interdisciplinary, future-oriented program incorporating information from the sciences and social sciences and addressing societal concerns which interface science/technology/society. The program promotes responsible citizenry with increased abilities in critical thinking, problem-solving, social/ethical reasoning, and decision-making. This module introduces students (grades 7-8) to the concept of change as reflected in changing lifestyles. Subject matter is presented in three sections, examining: family roles in earlier Amerindian society (low technology) and society today (high technology); role/purpose of education by comparing/contrasting the two cultures; and how lifestyle needs impact on land, its resources, and other people. The teaching guide includes an overview of the module (purpose; strategies employed, focusing on the dilemma/debate discussion technique; module structure/objectives; and its use in the school curriculum) and instructional strategies related to the readings, dilemma discussions, and student activities in each of the three sections. A chart indicating moral issues (as defined by Kohlberg) presented in the dilemmas and list of suggested readings are also included. The module may be used as a separate unit of study, mini-course, or incorporated into social studies, language arts, history, or general science courses. (JN)

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PREPARING FOR TOMORROW'S WORLD

Technology and Changing Lifestyles

Teacher's Guide

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Beacon City: An Urban Land-Use Simulation
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Technology and Society: A Futuristic
Perspective

PREPARING FOR TOMORROW'S WORLD

Technology and Changing Lifestyles

Teacher's Guide

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PREFACE

TO THE TEACHER:

We live in an exciting, rapidly changing, and challenging world—a world highly dependent upon science and technology. Our world is changing so rapidly that we sometimes fail to recognize that much of what we today take for granted as common, everyday occurrences existed only in the imaginations of people just a few short years ago. Advances in science and technology have brought many dreams to fruition. Long before today's school children become senior citizens, much of today's "science fiction" will, in fact, become reality. Recall just a few accomplishments which not long ago were viewed as idle dreams:

- *New biomedical advances have made it possible to replace defective hearts, kidneys and other organs.*
- *The first air flight at Kitty Hawk lasted only a few seconds. Now, a little over half a century later space ships travel thousands of miles an hour to explore distant planets.*
- *Nuclear technology—of interest a few short years ago because of its destructive potential—could provide humankind with almost limitless supplies of energy for peace-time needs.*
- *Computer technology has made it possible to solve in seconds problems which only a decade ago would require many human lifetimes.*
- *Science and technology have brought us to the brink of controlling weather, earthquakes and other natural phenomena.*

Moreover, the changes which we have been experiencing and to which we have become accustomed are occurring at an increasingly rapid rate. Changes, most futurists forecast, will continue and, in fact, even accelerate as we move into the 21st Century and beyond. But, as Barry Commoner has stated, "There is no such thing as a free lunch." These great advances will not be achieved with a high price. We are now beginning to experience the adverse effects of our great achievements:

- *The world's natural resources are being rapidly depleted.*
- *Our planet's water and air are no longer pure and clean.*
- *Thousands of plant and animal species are threatened with extinction.*
- *Nearly half the world's population suffers from malnutrition.*

While science and technology have given us tremendous power, we are also confronted with an awesome responsibility: to use the power and ability wisely, to make equitable decision tradeoffs, and to make valid and just choices when there is no absolute "right" alternative. Whether we have used our new powers wisely is highly questionable.

Today's youth will soon become society's decision-makers. Will they be capable of improving upon the decision-making of the past? Will they possess the skills and abilities to make effective, equitable, long-range decisions to create a better world?

It is our belief that the *Preparing for Tomorrow's World* program—will help you the teacher prepare the future decision-maker to deal effectively with issues and challenges at the interfaces of science/technology/society. It is our belief that the contents and activities in this program will begin to prepare today's youth to live life to the fullest, in balance with Earth's resources and environmental limits, and to meet the challenges of tomorrow's world.

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Technology and Changing Lifestyles

INTRODUCTION

All education springs from some image of the future. If the image of the future held by a society is grossly inaccurate, its education system will betray its youth.

Imagine an Indian tribe which for centuries has sailed its dugouts on the river at its doorstep. During all this time the economy and culture of the tribe have depended upon fishing, preparing and cooking the products of the river, growing food in soil fertilized by the river, building boats and appropriate tools. So long as the rate of technology change in such a community stays slow, so long as no wars, invasions, epidemics or other natural disasters upset the even rhythm of life, it is simple for the tribe to formulate a workable image of its own future, since tomorrow merely repeats yesterday.

Alvin Toffler, *The Psychology of the Future*
in *Learning for Tomorrow*, (Ed.) A. Toffler, 1974

Unlike earlier societies, we live in a world that can be characterized as rapidly changing. Moreover, the rate at which these changes occur are accelerated daily. Much of the change can be attributed to developments in science and technology. That change can produce stress and disorientation is the theme of Toffler's book, *Future Shock*. In the above passage Toffler also suggests that change affects our ability to create images of the future. Because we do not know what tomorrow will bring, it becomes difficult to anticipate future directions. How to best prepare our students for the future, therefore, is an increasingly puzzling challenge. We know that change is an inevitable dimension in our technological society, but we do not know what specific future changes will take place.

We do know, however, that the impact of science and technology has produced a number of changes within various aspects of our social system. This is reflected in lifestyles that are very different than lifestyles of our ancestors. In the past quarter of the century, lifestyle changes in the U.S. have perhaps occurred at increased rates. Recent statistics demonstrate this more dramatically:

- 51% of women between the ages of 18-65 are in the workplace
- 33% of all marriages end in divorce
- 30% of all meals are eaten away from home
- 69% of the population live in suburbs or cities
- 13% of children are raised in one-parent homes

Change also brings about new types of conflicts. Problematic questions arise, such as: "In these times of affluence and modern comforts, why are we plagued with violence in the streets, runaway children and school drop-outs?" "Why do our once sparkling lakes and rivers now resemble sewer drains?" "Why do we frequently have to wait long hours in line to fill our cars with gasoline?" Problems of this nature and their ensuing conflicts have no single and simple answer. Yet, they must be addressed and adequately resolved to insure a promising future.

We can begin by examining the impact of science and technology and resultant changes on certain basic elements of our culture. For this module we have selected three topic areas: the family, education and land use. These topics are ones in which we all partake and share common experiences. They are also topics that students can easily relate to since their lives essentially revolve around the home, the school and their surroundings. To emphasize the concept of change, two different cultures will be contrasted — a low technology society and our present day high technology society. In the process of exploring the changes effected through technological developments, some of the values inherent in the two cultures are highlighted, compared and contrasted. For the Amerindian, life is maintaining a sense of harmony with nature. In our modern day society nature is predominately viewed as an object apart, to be controlled and to serve our many needs.

As students engage in the activities of the module, they will begin to see that new types of conflicts emerge as different values take precedence over other values. In this module students will have an opportunity to discuss and analyze those values that influence their lives. The heightened contrast of the values of the two cultures serve as the basis for comparison. In contrasting and comparing, it is hoped that students will envisage new possibilities in their personal and interpersonal actions and interactions. By recognizing and considering a broadened range of possibilities, our future citizenry can perhaps assume a more dynamic role in influencing and directing the course of future change.

Overview of Technology and Changing Lifestyles

Purpose

The purpose of this module is to introduce students to the concept of change as reflected in changes in lifestyles. Our lifestyle today, in large part, can be attributed to new developments in science and technology. However, since we live among the products of high technology, we often lose sight of how technology influences the way we live as well as our attitudes and values. This lack of awareness is perhaps even more pervasive among our students. To emphasize lifestyle changes, life in a low technology culture, as presented by early Amerindians and a high technology culture, as represented by the students themselves, will be compared and contrasted.

Issues surrounding the home, school and land will be explored by posing problems and dilemmas encountered in the two cultures. In the process of examining a sample of issues, it is hoped that students will begin to understand their own values and evaluate the meaning and impact of those values on their lives.

Decision making is integrally linked to values. New technologies will require decisions about how to best apply them. A better understanding of our values will hopefully contribute to wiser and more responsible decision making. Future change and future lifestyles will depend upon what we hold to be important.

Strategy

The basic lifestyles of the two cultures will be examined in terms of the role of the family, education, and land use practices. Background information, important in the development of insight into the issues, is conveyed through a series of short readings. Additional knowledge is acquired as students engage in the activities, exercises and decision making opportunities. Student discussion is another essential component which encourages students to share their own ideas and hear the ideas of others. Exposing students to a range of alternative ideas and critical examination of those ideas will offer new perspectives about their own lifestyles.

The hypothetical dilemma situation is one strategy used to highlight and heighten the issues. It has been found that the dilemma discussion format involves students in a more dynamic manner and provides concrete examples of more abstract concepts. Hence, students can begin to draw relationships between those issues and their own lives. The dilemma discussion approach also requires that students assume an active role, each having to take a position, and defend that position. Hearing arguments and opinions of others will help lead them to examine the implications and consequences of their particular stance. Also, the level of relevancy becomes elevated when students hear arguments from their peers rather than from an adult authority or the printed word. Although the discussion process may seem to move more slowly than imparting information through lectures and readings, it places a personal demand on students to organize, coordinate and integrate information and concepts. It is in this manner that they begin to think more critically and become more effective decision makers.

The role play activities and simulations are variations of the dilemma discussion format. They are designed to engage students to consider a perspective different from their own. Early adolescence is a period of strong egocentric orientation. When students have opportunities to consider alternative viewpoints their own perspectives become extended so that they can begin to understand the broader social implication of different actions and decisions.

The dilemmas, as presented, are simple in form but can be further developed with increasing complexity, depending on the intellectual and conceptual level of the students as well as their interest and curiosity. The subject area or course in which this module is taught may determine ways in which many of the concepts can be further developed — such as concepts from sociology, ecology, government, history, etc. Drawing relationships from what is learned in various school subjects will inevitably make students' education more meaningful and effective.

Technology and Changing Lifestyles in the School Curriculum

This module designed for the junior high, middle school level (grades 7 to 8) is appropriate for a number of subject areas: social studies, language arts, science, etc. The particular course in which the module is taught will, of course, influence the manner in which the concepts and issues are examined. In a science class greater emphasis may be placed on examining the effects of technological developments and the use of resources. In a social studies class greater emphasis may be placed on the influence of culture on social roles. English classes might stress the analysis of arguments, debate strategies or communication skills.

The dilemma situation format can also be used as a "springboard" for teachers to develop additional dilemma activities for their class. So often it is the case that the best dilemmas are developed spontaneously from materials that are part of the ongoing coursework. Having used these dilemmas, teachers can better understand the intent and value of dilemma discussions and begin to recognize other problematic situations and changes brought about by technological developments.

The important aspect of this module is to help students begin to think about change and the factors that influence change. They will live in a world where change will take place at accelerated rates. They will encounter new choices and alternatives. Experience in learning to think about change in a larger context will better prepare students for future decision making.

Module Objectives

- To increase the students' awareness of value systems inherent in a high- and low-technological society, by contrasting the different lifestyles of each.
- To increase students' ability to more critically analyze issues and problems in our society.
- To increase the socio-scientific reasoning ability of students.
- To increase students' decision-making skills.
- To increase the students' ability to recognize future problems relative to the family, education and land.

- To increase students' ability to develop and present effective arguments in a logical and comprehensive manner.
- To increase students' understanding of the impact of technology on their lives.
- To enable students to critically examine their own as well as different societal value systems.
- To increase student self-esteem and ability to communicate and function more effectively in classroom discussions.
- To assist students to recognize their roles as present and future change agents.

Components of Technology and Changing Lifestyles

- Student's Manual
- Teacher's Guide
- Masters for Student Handouts - 11

Technology and Changing Lifestyles is comprised of three major sections. Section I examines family roles in earlier Amerindian society and society today. Section II examines the role and purpose of education, again by comparing and contrasting the two cultures. Section III examines how lifestyle needs impact on land, its resources, and other people. Within each section, short readings introduce the topic, and student activities, dilemma discussions and simulations serve to develop the concepts/issues in greater depth.

Each of the dilemma stories presented in this module raises two or more moral/ethical issues. Table 4 identifies the issues emphasized in each of the dilemmas. It is important that the students recognize the issues in conflict when discussing the dilemmas. Otherwise, the essence of the controversy would be diminished.

This module is designed with a high degree of flexibility. The sections may be presented sequentially and serve as a single unit of study. Alternatively, the sections may be introduced where appropriate as extension activities to supplement ongoing classroom studies. It is also possible to use the dilemmas and simulations as selected exercises interspersed through an existing curriculum. Thus, the module can provide another dimension to an existing course or "stand on its own" as a mini-course.

Table 4

Issues Contined in Each Dilemma

Dilemma	Issues*								
	punishment/blame	property	affiliation role	law	life	truth	governance	civil rights/ social justice	morality/mores
Chasing Hawk's Dilemma	✓		✓		✓				
TV on Trial; What is Your Verdict?	✓			✓					✓
To Watch or Not to Watch			✓			✓	✓		
Dawn's Dilemma			✓			✓		✓	
Dropping Out			✓	✓				✓	

*These basic moral issues as identified by Kohlberg comprise the underlying elements of a conflict situation involving a moral decision. Our dilemmas were constructed to incorporate two or more of these issues. Dilemma resolution requires a choice or action to be made between conflicting issues. For instance, in a dilemma dealing with the issue of governance and social justice, the questions surrounding the issue of governance include: 1) Should one accept or reject the authority of the governing body? 2) What are the characteristics and responsibilities of good government? The social justice issues raises the questions: 1) Should one defend or violate the political, social and economic rights of another person? 2) What are the bases of these rights?

RECOMMENDED TEACHING STRATEGIES AND STUDENT ACTIVITIES

Section I: The Family

In this first section, the students will explore the concept of the family within two different cultures. By comparing the similarities and differences, students will begin to recognize that the structure of the family and the ways it functions are closely related to the needs of the community. First, the students should be cognizant of the role they play in their own family to develop a basis to make comparisons with the other society. Secondly, they should develop an understanding of the values held in the two cultures. Some values may be basic to the two cultures but are manifested in different ways. Or, the values vary in their degrees of importance to the two groups. Students will begin to see that many aspects of American Indian family life have counterparts in today's modern family as well as those which are uniquely different. Some of these differences and changes in lifestyle are examined in the activities and discussion of the impact of television.

Reading 1: "Family Concepts and the Traditional Indian"

The first reading provides a brief overview of Plains Indian life in the 1700's. The family and interpersonal relationships reflect the American Indian's view of life as a harmonious interaction between nature and man. This concept should serve as a basis to help students to understand the Indians' view of their family roles, their value system and ideas about technology.

Discussion of Reading

Several discussion questions are interspersed in the reading. Discussion of those questions will assist students in understanding the Indian's concept of "family." In many ways it is very different from our typical nuclear family today, and students may have difficulty envisioning the closely knit interactions of the American Indian extended family. The following questions may provide students with additional ideas to consider:

- What American Indian customs seem unusual? Why do you suppose they were followed?
- Are there things that you do that are similar to what American Indian children did?
- What family activities do you suppose are most important to an American Indian? Why? To you? Why?
- What might American Indians consider as a most praiseworthy action? Most displeasing? What might you do which your family would consider to be most praiseworthy? Most displeasing?

Activity 1: Comparing Family Roles

• Student Handout 1: Comparing Family Roles

Overview

This activity provides a method for students to examine the function of different family roles in traditional Indian culture and American society today. The completed student charts will reveal that roles in the Indian family tend to be more rigidly prescribed by custom, while in today's family many roles are changing and do not necessarily follow prescribed cultural dictates.

Student Activity

Students will individually complete their charts. Information about Indian roles can be found in the preceding reading and discussion. Modern family roles can be identified from their own personal experiences. After students have completed their charts, they should meet in small groups to discuss and compare their results. Each group should briefly summarize their conclusions about the main similarities and differences found in the family roles of the two cultures. The brief summaries are to be presented to the entire class for further discussion.

Comments and Suggestions

Some possible roles are listed at the bottom of the handout. Students need not be limited to those choices and should be encouraged to add their own. They can begin to identify additional roles by thinking about what each person in their family does in a typical day. When students discuss their charts, they will find that family roles today may differ from one family to another. There are, of course, no "correct" answers. What is important is for each student to discover that all roles contribute to the functioning of the family and frequently change as the need arises. Also, a person assumes a multiplicity of roles, and especially in today's society a particular role can be expressed or achieved in a number of different ways. However, because roles today are less rigidly defined, a person encounters confusion and conflict. You may have the students examine problems that people might face in situations where social roles are strictly prescribed and in situations where social roles are in a continuous state of change.

Dilemma 1: Chasing Hawk's Dilemma

Overview

The dilemma story presents additional insights into the Plains Indian's life. It examines an individual's role in the community and that person's responsibilities in the role. Dawn's dilemma results from her having to choose between her responsibility to watch over her brothers and her responsibility to insure the safety of the village. The questions raised in the dilemma are "What constitutes misbehavior?" and "Who should bear the blame?"

Dilemma Discussion

Please follow the basic procedure for conducting dilemma discussions as suggested in this Teacher's Guide.

Activity 2: What We Value

• Student Handout 2: What We Value

Overview

In this short activity students will compare items which they value with those valued by an American Indian youth living several hundred years earlier. The contrast demonstrates how science and technology have produced new value objects and lifestyle changes.

Student Activity

Students will first compile a list of items they think an American Indian youth valued. They will need to infer what these might be based upon the preceding readings. Secondly, they will compile their own list of value items.

STUDENT HANDOUT ONE

Activity 1: Comparing Family Roles

1. People serve a variety of roles in a community and family. Compare some of these roles by completing the chart below. List some roles assumed by the different family members. Some possible roles are found at the bottom of the page. Add other roles if needed. Some of the roles listed can be used several times and each person may serve several roles (e.g., father may carry out several roles).

INDIAN FAMILY	MODERN FAMILY
Father	Father
Mother	Mother
Daughter	Daughter
Son	Son
Elders	Elders
Aunts and Uncles	Aunts and Uncles

Possible Choices:

apprentice, baby sitter, "boss of the house," wage earner, cleaner, cook, counselor, demonstrator, dish washer, doctor, farmer, food gatherer, friend, grounds custodian, guardian, healer, housekeeper, hunter, pet keeper, play mate, protector of the family, provider, repair person, security guard, skilled worker, story teller, student, teacher, tool maker, garbage collector, factory worker.

(DO NOT WRITE IN BOOK)

Activity 2: What We Value

The simpler world of the food gathering Indian tribes is quite different when compared to our highly industrialized society today. Early Indians placed much value on basic survival needs. What do we value today?

On a *separate* paper list some values of the early American Indians. List your own values. Values can include things, objects, people, ideas or anything that people consider important.

INDIAN YOUTH	YOU
buffalo	money

Select from the Indian list the most important and put in the above Indian column. Do the same for the *second* most important, *third* most important and so on until all items are listed.

Select from your list the most important and put in the above "you" column. Do the same for the *second* most important, *third* most important and so on until all items are listed.

Compare the two lists (2 and 3) above.

- How are the lists similar? How are they different?
- What items do *you* value that have resulted from advancements in science and technology?
- In the examples given in the chart above, buffalo and money are very similar in that they can both be used for trading and/or purchasing other things. Find other items which can be "paired off" and serve similar ways in both cultures.
- Which of your values seem trivial when compared to the Indians' values for survival?
- What values held by early American Indians do you find desirable? Would you want to be part of a society which held those values? Why or why not?
- What does survival mean in today's world? What must we learn and do in order to survive?

(DO NOT WRITE IN BOOK. Use copy distributed by your teacher.)

- The items are then to be listed on the Student Handout #2 in their order of priority.
- The questions on the handout should be answered in writing on the reverse side of the sheet.
- Have the students share their responses during a class discussion on values.

Comments and Suggestions

- Students may have difficulty in compiling a list of values. It may be useful to suggest that they try to imagine those things that they would have difficulty doing without. The same process can be applied when they develop the American Indian list.
- Students may tend not to include many items they take for granted such as food, clothing, shelter or other life sustaining components. Why these items are of less concern may be an interesting focus for class discussion.

Activity 3: A Household Census

- Student Handout 3:
A Household Census, Form 1
- Student Handout 4:
A Household Census, Form 2

Overview

This activity offers students an opportunity to conduct interviews, compile and display the survey data and analyze the results of the survey. The results should reveal significant shifts in household patterns that reflect changes in the American family.

Student Activity

Each student will complete two survey forms. Form 1 (Student Handout #3) will be answered by the students. Students will interview a parent/guardian to complete Form 2 (Student Handout #4). Encourage

students to interview a grandparent or older person and complete a second Form 2 (relabeled as Form 3).

- The completed survey forms constitute three sets of data:
 - present day
 - parents' time
 - grandparents' time

The class will form three groups to code and tally the answers. Additional blank survey forms are used for recording the responses. Each group will submit a copy of the final results to be posted in the classroom.

- Pairs of students or small groups will be responsible for analyzing and comparing the results of one question. (There are nine questions, so assign the students accordingly.) Each student pair or small group will obtain the responses for its question in each of the time categories (from the Survey Results of the three groups). They will then construct a graph to illustrate the findings. Remind the students to make the comparison using the *average* number.
- When the entire class reconvenes each group will give a short explanation of its graph. What changes occurred, and are there any trends or directions in the change? The explanation should include a brief discussion of possible factors that contribute to the change, if any.
- Following all the presentations, discussion of the activity questions will help to organize the survey findings into a broader context.

Comments and Suggestions

- As an extension of the activity, you may have the class compare their results with recent census data and determine how their findings correspond with national norms. It may also be instructive for the students to examine the latest census form to see the types of questions asked by the Census Bureau.

Activity 3: A Household Census — Form 1

Instructions: Answer the following questions (it is not necessary to put your name on your paper)

1. How many persons live in your household? _____
2. How many children live in your household?
(under age 18) _____
3. Do your grandparents live with you? Number? _____
Yes _____ No _____
4. If your grandparents do not live with you, how often
do you see them each year?
mother's side _____
father's side _____
5. How many persons in your household work outside
the house? _____
full time _____
part time _____
6. How many persons in your household conduct all
their business at home?
(farming, have office in the house, etc.) _____
7. Approximately how far did you travel on your
last vacation? _____
8. In what type of dwelling do you live?
single family house _____
townhouse (or) apartment house _____
other (describe) _____
9. During your life, how many times have you moved? _____

Activity 3: A Household Census — Form 2

Instructions: Interview a parent or guardian using the questions below.* The person you interview is to put himself/herself back in time. He/she will answer the questions in the way he/she would have at the age you are now. That is, he/she is to tell you about his/her *childhood* household. (Do not put names on paper.)

1. How many persons lived in your household? _____
2. How many children lived in your household?
(under age 18) _____
3. Did your grandparents live with you? Number? _____
Yes_____ No_____
4. If your grandparents did not live with you,
how often did you see them each year?
mother's side _____
father's side _____
5. How many persons in your household worked outside
the house? _____
full time _____
part time _____
6. How many persons in your household conducted all
their business at home?
(farming, had office in the house, etc.) _____
7. Approximately how far did you travel on your
vacations when you were 12 or 13 years old?? _____
8. In what type of dwelling did you live?
single family house _____
townhouse (or) apartment
house _____
other (describe) _____
9. From birth to your early teens, how many times
have you moved? _____

*If your grandparents live with you or nearby, or if you know an older person, obtain a second form from your teacher. Complete this form in the same manner. Change the title to read Form 3.

Reading 2: "The American Family's Companion"

Overview

It is without question that television occupies a dominant position of influence in our lives. Television is also a subject about which students can speak knowledgeably. Hence, it provides an excellent example to show how a technological development has changed family lifestyles.

Discussion of Reading 2

Have the students compare their typical family evening with that of the Plains Indian. Discuss also the questions in the reading so that students can begin to examine the role of television in their lives.

Activity 4: How is TV Your Companion?

- **Student Handout 5, TV Log Sheet**
(Each student will receive 3 copies)

Overview

The impact of television has been the topic of thousands of psychological and sociological studies, and has generated much debate. In this activity students will conduct a class survey, analyze the data and draw their own conclusions about the effects and values of TV.

Student Activity

- Each student will record their TV watching for three days using a separate Log Sheet for each day.
- The completed Log Sheets will be collected and redistributed. Each student will analyze the set of Log Sheets of another student. (The authors of the TV records should remain anonymous, so make sure that names do not appear on the sheets.)
- Students will write a brief summary of the log sheets using the questions on page 12 as a guideline. As a starting point they should total the hours of TV watched and categorize the type of program (e.g., situation comedy, news, talk show, movie, etc.)
- Students will then meet in small groups (3 to 5 members) to compare and discuss their findings. The major differences and similarities among the log sheets should be noted. They should also respond to the questions for group discussion. A recorder is selected to record the major conclusions.
- The entire class reconvenes and a representative from each group will present the group report. Based on the reports the class will write a set of statements which summarizes the TV watching characteristics of the class. The students should try to make some inferences about the main trends and draw some conclusions about the impact of television on their lives.

Comments and Suggestions

The class may find it interesting to compare their findings with other studies. Have some students bring in recent articles, from newspapers or magazines, about the effects of television on the viewing public. What are their opinions about the articles? Do they agree or disagree with the author's conclusions? A discussion of an article from the student's research may be substituted for Activity 5.

Activity 5: Other Opinions About TV

Overview

The growing concern about the detrimental effects of TV has led to large scale efforts by many public interest groups to lobby for changes in TV programming as well as to change TV watching habits. Many of the arguments focus on the physical and mental health of children. In this exercise students have the opportunity to evaluate and respond to some of the arguments, presented in a recent publication.

Student Activity

- The class will form six (6) groups. Each group is assigned one argument from the publication to discuss.
- The group will decide whether or not it thinks the criticism of TV cited by the publication is justified. To reach a consensus decision students should consider evidence based upon their knowledge and experience as well as from outside sources. The results of the preceding activity might also serve as a useful source of information.
- The group will, in addition, draw up a list of suggestions on methods for improving TV watching habits.
- A representative from the group will then present to the entire class a 5-minute summary of the group's decision. The report should include the reasons for the group's decision and suggestions for improvement.
- Following the group presentations the class will further examine the group's suggestions and consider the desirability and feasibility of the suggestions. The effects of the suggestions on lifestyle should be addressed in class discussion.

Comments and Suggestions

The *Additional Discussion Topic*, in which students are to convince an early Amerindian that TV is necessary and important, can serve to integrate the many ideas and opinions brought out in the preceding activities. The additional topic may be assigned as a written exercise, a short discussion, or as a short skit.

Activity 4: How is TV Your Companion?**LOG SHEET**

Time	Title of Program	Type of Program (sports event? comedy? quiz show?)	Who else is watching with you? (friend? sister? parents?)	What else are you doing? (eating? home- work? talking?)	What are your reasons for watching this program?	What did you find out that you did not know before?

Dilemma 2: TV on Trial: What is Your Verdict?

Overview

Whether TV violence provides a vicarious release of aggression or whether it in fact induces aggression has been a subject of vigorous debate among psychologists. The idea that TV promotes aggression is taken to its ultimate conclusion when it was used as a major defense argument in a recent murder trial. The dilemma story is based on this case.

Dilemma Discussion

Follow the basic procedures for conducting dilemma discussion as outlined in this guide. Alternatively, the class may wish to role play the courtroom trial.

Dilemma 3: TO WATCH OR NOT TO WATCH

Overview

The conflict in this dilemma involves the decision to accede to peer pressure or obey parental wishes. It is no doubt a conflict often experienced by young people today, one that students can readily relate to. Although students may not be consciously aware of the extent to which they base their behavior on peer influence, it may be important for them to begin to recognize the forces that govern their behavior.

Dilemma Discussion

Follow the basic procedure for conducting dilemma discussion as outlined in this guide.

Comments and Suggestions

Have students provide other examples of similar situations. An examination of the wisdom and consequences of the actions/behaviors may help students to extend their social perspective and more critically think about their own actions.

Activity 6: Focusing on the Future

Overview

Focusing on the Future poses a series of questions which address ideas discussed in this section. In answering these questions, students will examine values they hold important and how those values might affect or direct future changes.

Student Activity

- Have students select one question to answer in a short essay or have small groups of students answer the question as a group report.

Section II: Education

"Why should I have to go to school?" is a common question posed by our youngsters. School behavior problems are also symptoms of lack of interest in learning. One possible explanation for this situation may be that we often lose sight of the connection between education and survival. In this section the idea of education as learning to survive is brought out by the examples from Indian education. Different approaches to learning are examined and students will consider the relationship between survival needs in a highly technological society and educational practices.

Reading 3: "Education from an Indian Viewpoint"

Overview

This selection of short readings express the Indian's feeling towards education and those who teach. Their respect for tradition and the wisdom of the elders provide a sharp contrast to modern American attitudes, offering rich ideas for class discussion.

Comments and Suggestions

The readings, although short, express profound ideas. Students might not readily interpret the meanings from just a cursory reading. We suggest that each selection be read aloud (perhaps by different students) and discussed in turn. The questions following each reading may be helpful for initiating class discussion. Many of the words are used in a broader and/or different sense than we normally use. For example, "language" used in "The Keeper of Tradition" implies more than simply the spoken word. It encompasses the idea of wisdom, righteousness, the expression of the culture, etc. Hence, some interpretation is required so that students can more fully appreciate and understand the Indian perspective.

Activity 7: Life Style — Past And Present**(Chart A)**

Activity	Early American Indian	You
Rising in the morning	Get up at sunrise, dress according to weather. Pray on hill (or sweat lodge). Eat meal of bread & berry juice.	Wake up when alarm clock rings, shower & dress, Eat cereal, eggs juice & milk.
Preparation for the day		
Morning Activities		
Midday Meal		
Afternoon Activities		
Late Afternoon Activities		
Evening Meal		
Evening Activities		
Bedtime		

(DO NOT WRITE IN BOOK. Use copy distributed by your teacher.)

Reading 4: "Early American Education"

Overview

This selection further examines the many aspects of learning in Indian society, expanding upon the preceding readings. From these readings students should gain an understanding of how Indians convey knowledge outside a structured classroom and the importance of learning. They should also recognize the critical role of each family member in the educational process.

Comments and Suggestions

The questions following the reading focus on the comparison between Indian education with our education today. While the process of Indian education differs significantly from ours, students should begin to appreciate and understand the role of education in the two societies.

Have the students write a short summary statement about Indian education which includes their personal reactions. It may be useful to have a few students read their summaries aloud and share their different ideas.

Activity 7: Lifestyle Past and Present

- Student Handout 6, Chart A
- Student Handout 7, Chart B

Overview

This activity offers a technique for students to gain a closer understanding of Indian life and culture. By examining the details of a typical Indian day and relating it to their own, the differences and similarities become more evident.

Student Activities

- Each student receives a copy of Handout #6 and #7 to be completed individually.
- On Chart A they will list activities that an Indian teenager might engage in during a typical day. Correspondingly they will list their own activities. Students will need to infer from preceding readings what constitute the activities of an Indian youngster. Questions such as "What chores need to be done each day?" "How can an Indian contribute to the family meal?" can provide some hints. Or, students may do some additional outside readings on life of Indian children.
- On Chart B, students will list the differences found between the Indian's day and their own. Next to each item of difference they are to provide a *reason* for this difference.
- Students will meet in small groups to compare and discuss their findings. They will select four differences which they consider to be the most extreme and prepare a short summary to present to the entire class.
- The class will then hear the reports of each group's discussion.

Comments and Suggestions

- The completed charts, no doubt, contain a treasury of insights. They can provide the basis for a short skit depicting a dialogue between a teenager today and an Indian of yesteryear enacted by class members.

Dilemma 4: Dawn's Dilemma

Overview

This dilemma situation typifies not only an Indian predicament but that of other racial minorities who desire to maintain their cultural identity outside the mainstream of American society. To maintain a traditional lifestyle becomes increasingly difficult when the young are exposed to outside influences.

Dilemma Discussion

Follow the procedure for conducting dilemma discussion as outlined in this Teacher's Guide.

Activity 8: Scenarios on Education

Overview

Students will explore alternative forms of education through this scenario writing exercise. The intent is to demonstrate the different forms/practices of transmitting knowledge and skills as responses to particular social, economic and political needs of a community/society.

Thinking hypothetically such as in scenario writing is often difficult because our thinking is so influenced by what we know and what we have experienced. The following are some simple ways to help get students started in exploring a different idea or projecting a future possibility.

Getting Started

- **Brainstorming** — This is a useful technique if one were writing a scenario as a group activity. The purpose of this technique is to try to obtain as many ideas as possible. The group starts with the basic theme that it has selected. Each person in turn then contributes an idea and this process continues around the group until all possible ideas seem to be exhausted. One person's idea often leads to other ideas. Or, ideas may result from combining several ideas. *The important rule for brainstorming is to reserve judgment.* No one critically comments on another person's idea. Each and every idea is treated equally, no matter how far-fetched it may seem. Have one person record the ideas, and at the end of the session the list will be read. Then the group can decide which ideas are more interesting, practical or feasible to incorporate in the scenario.
- **Attribute Listing** — The attribute listing technique involves listing every attribute or characteristic of an object or event, so that one can begin to think about the object or event in new and different ways. Take, for

Activity 7: Life Style — Past And Present**(Chart B)**

Review the lifestyle you just completed. Do you feel your Indian guest from the past would find differences between his life and yours? List possible differences below. For each of these differences give a reason(s).

Differences	What is the Reason for this Difference?

(DO NOT WRITE IN BOOK. Use copy distributed by your teacher.)

example, a situation in which one has to sell a warehouse of old pencils. Perhaps one would have a better chance of selling the pencils if other uses could be found for them.

First, list all of the attributes and components of the pencil, such as:

wood	long
lead	slender
color paint	inflexible
rubber eraser	strong
metal ring	light
(joining eraser)	

For each of the attributes some of its possible uses can be described. Wood, for instance, can be used for building, firewood, shaved down for packing materials, splinting, etc. For the erasers, which are soft and bouncy, other possible uses might result from gluing them together and thus forming a pin cushion or a doormat, or perhaps they may be used as corks for small bottles.

By thinking of unconventional or unusual uses one might discover a new market for old pencils, and one could therefore quickly sell the contents of the warehouse.

Although scenario writing is a frequent technique employed in futures forecasting, it is also a useful tool for examining the ways the components of a situation or activity interact and effect change. As the students develop their scenarios, it is hoped that they will gain an awareness of the characteristics and boundaries of different educational processes.

Student Activities

- Students, individually or in small groups, will write a scenario about a form/practice of education.
- Students will select from among the scenario themes suggested in the student manual. However, their choice need not be limited to those educational practices listed. The students may have ideas about other educational forms/practices they wish to investigate using the scenario format and should be encouraged to do so. It is, however, important that students incorporate the considerations raised by the questions which follow each of the themes.

Although scenario writing is a frequent technique employed in future forecasting it is also useful as a tool to examine the ramifications of a given situation or practice as exemplified in this activity.

Comments and Suggestions

Scenario Forecasting — A scenario, when used as a futures forecasting tool, is a story which gives substance to and integrates a vision of the future. It usually involves the development and description of a sequence of events leading from a given point in time to a forecasted future state. The narrative presentation provides the freedom and flexibility necessary to discuss the complex interaction of factors and variables of

a situation and to weave a detailed description of that possibility as perceived by the writer.

The scenario thus allows one to examine changes and the interaction of factors in a border perspective. This process of relating events and considering consequences can serve two useful purposes for the decision maker. It can serve as a planning guide. One determines a certain set of goals for the future and uses the scenario to lay out the steps necessary to achieve those goals. It can also be used to examine effects of particular decisions since different decisions lead to different futures. The scenario in this instance would describe the implications of a decision. (The students choose a form of education to examine and try to imagine how it might function in today's society.) By weighing the advantages and disadvantages, one can then decide whether the results are desirable.

Scenarios can be presented in a number of ways, ranging from science fiction stories to dramatizations to planning diagrams to visionary drawings. Its underlying purpose, however, is the exploration of a possible alternative or an unique and unusual idea.

Students will inevitably create some very imaginative scenarios. Sharing of these scenarios will provide an enjoyable and thought-provoking classroom experience.

Dilemma 5: Dropping Out

Overview

The idea of "dropping out" of school may be an idea often entertained by teenagers. In many cases they focus on their short term needs rather than in designing, or directing, their future. Also, they are not able to make connections between what they learn in school and what skills are important for functioning in a complex society. Compounding the problem may be existing structures of education which are less flexible in meeting the needs of the diverse student population. These issues underlie the question posed by the dilemma situation.

Dilemma Discussion

Follow the basic format for conducting dilemma discussions described in this Teacher's Guide.

Comments and Suggestions

Some students may no doubt find the suggestion of "dropping out" very attractive. However, they need to examine some of the long term consequences of leaving school. Skillful use of appropriate probe questions will be important for helping students evaluate and broaden their perspective.

Since students will be future decision makers, they should also consider in their discussion ways for school improvement. While "relevancy" has become a cliché in educational circles, students may be able to offer some fresh insights.

Activity 9: Designing a Perfect School

Overview

In this activity students will organize some of their ideas about education by designing what they consider to be an "ideal" school. The previous readings and activities should have developed some insights into the goals of education as well as awareness of societal requirements. Students now have the opportunity to offer their suggestions on change and improvements.

Student Activities

- In small groups (3 to 5 members) students will formulate their description of a "perfect" school. The questions in the student's manual should be first discussed to provide a framework and issues for consideration.

- Upon completion of their "perfect" school each group will present its proposal to the entire class.

- The class as a group will then select from among the presentations the *best* ideas. From these ideas the class' "perfect" school is then developed.

Comments and Suggestions

- Encourage the students to be creative in their presentations. They might include sketches, plans, diagrams, teaching strategies or learning devices for a more dynamic and intriguing proposal.

- Students might also consider how new technologies (i.e., computers, satellite communications, etc.) can be incorporated into their school.

- Some guidance may be needed to lead students to consider the interaction and interrelationships of the multiple factors in education.

Section III: Land and Technology

To support our modern life requires new types of resources from the land. As a result, extraction of fuel and minerals and their transportation have placed great stresses on the environment. This section examines some of these effects and brings up the question of "trade-offs." One of the consequences less frequently addressed is that of lifestyle changes imposed upon more traditional cultures. It is hoped that the students will begin to develop the understanding that physical environmental changes interact dynamically with social, economic and cultural institutions.

Reading 5: Introduction; Technology and Land Changes

Strip mining, pipelines and dams are examples used to illustrate the impact of modern technology on the surface of the land. Some of the effects of these activities are briefly examined.

Discussion of Reading 5

Following the short introduction are several questions for the students to respond to in a written format. They are intended to provide a framework for students to begin to think about the benefits they derive from technology. Their written responses can serve as the basis for additional class discussion.

During the class discussion, it may be useful to select what students consider to be the most important technological products and examine each in greater detail. The complex support system required to produce the product will illustrate interdependency between raw materials, energy, transportation, etc.

Activity 10: Can You Get By With Less?

- Student Handout 8: Can You Get By With Less?

Overview

Students tend to view what they do not physically see or partake in as distant, abstract concepts. The exercise is intended to help students relate their more immediate experiences to what is seemingly remote from their lives. Also, it points out the many elements in our lives, often considered as luxuries by other peoples, are accepted as basic necessities.

Student Activities

- Each student will receive and complete one copy of Worksheet 8.
- They will select one of the topics — "COAL," "DAM" or "PIPELINE" — and list products and/or activities that are dependent upon that resource. Next to the identified item in the right column they will provide a suggested substitute for that item.
- Students will then select one of the items on their list and write a paragraph describing a lifestyle change if that item were replaced by a substitute. Their description should also take into account the environmental impact of that substitution.

Comments and Suggestions

Again, students may find it difficult to find relationships between their lives and, for example, a dam. The "brain storming" technique as described earlier on page 30 will be useful to help the students draw the relationships. For instance, start with one of the dam's direct products (electricity, water, etc.) and have the students provide examples of water usage; i.e., different home uses, industrial uses, recreational uses, wildlife habitat, agriculture, etc. The products of these applications are, of course, common household items.

Activity 11: Pipelines, People and Wildlife: A Case Study

Activity 12: Coal, People and Land: A Case Study

Overview

Both activities follow the same basic "debate-role play" presentation where students will assume a selected role character and his/her viewpoint. In the first case students will represent the viewpoint they find *most appealing* while in the second case they will represent the viewpoint they find *least appealing*.

Student Activities

- Each student will select a viewpoint to represent. He/she will then meet with other class members who share the same viewpoint and work in small groups to develop the group argument. Group members will all share in making the presentation before the entire class.
- If large numbers of students select the same viewpoint, it may be necessary to subdivide them into smaller groups. In large group situations more timid students are less likely to voice their opinions.
- In these case studies students will have an opportunity to use their debating skills. Students may read the background articles prior to selecting one of the viewpoints presented, or alternatively, they may make their selection and use the information in the readings to develop their argument. Students should have time to reflect on the questions and also share their opinions and rationale with other group members. It might be useful for each student to take a few minutes to write a short statement (two or three sentences) to help organize his/her thoughts.
- During the group meeting students will discuss and expand on the basic argument. The questions should help the students focus on the primary issues of the situation and to keep them from going off on too many tangential issues. The background readings will provide some baseline information; but additional student research will, of course, enhance the quality of the presentations.
- Each member of the group will take a different aspect of the argument for the class presentation. They should rehearse their argument with the group members to check the time required and make sure they are not redundant.
- At the presentations each group should have a nameplate (person it represents) for ease of identification. Presentation should be about 10 minutes in length. The remainder of the class period is then devoted to questions and selection of the most convincing arguments.

Activity 10: Can You Get By With Less?

Products or Activities that Depend Upon			Substitution
(coal)	(dams)	(pipeline)	
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Lifestyle changes:

Comments and Suggestions

In the second case the students argue from the point of view which they *DISAGREE* with instead of the one they find more appealing. This affords students an opportunity to consider an opposite point of view. By taking the "other side of the fence" perspective, students may begin to gain greater understanding of the issues involved in the conflict. It is often the case that conflicts reach an impasse because one side has little or no understanding of the other side's position. By hearing and discussing these alternatives, a more in-depth understanding of the issues is developed.

Activity 13: Changing Times

- Student Handout 9: Family
- Student Handout 10: Education
- Student Handout 11: Land

Overview

Completion of the *Changing Times Charts* serves as a culminating activity where some of the ideas derived from preceding activities are summarized. The "time line" format offers a strategy to show the direct relationship between technological development and subsequent types of activities and lifestyles.

Student Activities

- Have students select one of the topics, *Family*, *Education* or *Land*, obtain the appropriate handout and follow directions given in the Student's Guide. The students should be given a reasonable amount of time to complete these charts. They might take them home so they could interview grandparents as well as have more time to reflect on some of the items.

- For each of the items listed on the left column of the chart, students are to provide one or more examples for the following time period: *Early American Indian*, *grandparents*, *present day* and *future*. Under the column *Technological Event*, students will indicate the technological event/scientific discovery that made the subsequent activity possible.

- After completion of the charts, have the students meet with others who selected the same topic to compare their results and prepare a summary of their findings. A spokesman from each group should present the results to the class. Remind them to stress the role science and technology has played in each of the areas (Family, Education, Land). In which of these areas did the student find greatest changes as a result of technological developments?

Comments and Suggestions

A list of nineteenth and 20th Century technological developments and their dates posted in the room will provide students with additional ideas and a frame of reference.

Changing Times: FAMILY

STUDENT HANDOUT NINE

Aspects of the Family	Early Amer. Indian Time	Technological Events	Grandparents Time	Technological Events	You (Now)	Technological Events	Future (your predictions for the year 2050)
Family Members in Household							
Activities in which all family members take part							
Use of Leisure Time							
Holidays & /Celebrations (How celebrated by family) Give 2 examples							
Types of Family Decisions							
Other							

Changing Times: EDUCATION

STUDENT HANDOUT TEN

Aspects of Education	Early Amer. Indian Time	Technological Events	Grandparents Time	Technological Events	You (Now)	Technological Events	Future (your predictions for the year 2050)
Where does education take place?							
Who teaches?							
What is learned?							
How taught?							
Special skills needed							
Major purpose of education							

Changing Times: LAND

STUDENT HANDOUT ELEVEN

Aspects of Land	Early Amer. Indian Time	Technological Events	Grandparents Time	Technological Events	You (Now)	Technological Events	Future (your predictions for the year 2050)
Feelings about the land							
Direct activities with land							
Use of land resources							
Type of Man-Made Structures on Land							
Owners of the land							
Other							

Additional Readings

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